

With the Compiler's respects.

THE
ENGLISH FIREPLACE:

ITS ADVANTAGES, ITS OBJECTIONS,
AND ITS RIVALS.

Considered with a view to Utility and Economy.

ILLUSTRATED.

ENTERED AT STATIONERS' HALL.

LONDON:
JOHN BUMPUS, 158, OXFORD STREET. W.

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INTRODUCTION,

GIVING

A FEW GENERAL HINTS IN REFERENCE TO THE
WARMING OF ROOMS, &c.

For various good reasons, the English open fireplace is preferred to other methods of warming rooms, and the chief of these is, that heat thus given cannot by any possibility injure the air of the room. Another recommendation is, that good ventilation results as a matter of course; and although in itself this way of ventilating a room is not perfect, still a change of air is constantly taking place.

I.
The English
Fireplace
and its
advantages.

There are, however, two principal reasons against this plan of warming; the one is the expense of the fuel, and the other, that only rooms of moderate size can be thus warmed. It is impossible with an open fire to warm a large room, as that part near the fire gets too warm, while the rest is too cool to be comfortable.

II.
Its objections.

While the object of this pamphlet is the furtherance of business, it is hoped it may assist those wishing to warm rooms efficiently and with economy, and that they may judge for themselves which is the most suitable fireplace in each case.

III.
Object of
Pamphlet.

The information given is the result of patient investigation, various experiments, and much practical experience, and it is believed that the facts are stated without partiality towards our special fireplaces.

The fireplaces described are of simple design, are first-rate in heating qualities, of good construction, and economical in fuel, while complex forms are avoided.

Any of the following can be highly ornamented if wished.

The room to which each stove is best suited is classified and indexed.

IV.
Classification
of Fireplaces.

The following fireplaces are divided into four classes; viz.,

(A) Grates fixed in the wall as usual.

(B) Grates in fireplaces with heating chambers round the back and sides.

(C) Stoves that stand forward from the fireplace.

(D) Similar stoves, but with an outer case and an air space between the two cases.

External air can be introduced to all fireplaces in classes B and D, and to some of class C.

No chimney-pieces are required for classes C and D, hence a saving in the first expense as well as in fuel.

V.
Chamber
behind the
Fireplace for
warming air.

Of the various improvements made in the English open fireplace, perhaps the greatest is that by which fresh air entering the room from without gets warmed by contact with the back and sides of the grate. Ventilation is thus produced, and draughts across the room avoided; but it must be borne in mind that draught across the room means more thorough ventilation than if the entrance and exit of air be at or near the same point.

In fireplaces on this construction the fuel goes nearly twice as far, for a given result, as if burned in a grate without this heating chamber, i.e. than if set solidly into the wall.

VI.
Fire-brick.

Fire-brick is now largely used for fireplaces; it is a good non-conductor of heat; therefore if the back part of the fireplace is lined with it, heat is not conveyed away backward and lost, but thrown forward into the room. To this end the brick should be left its natural *light* colour, and not blackened. If however the heat from the back part is used in warming air passing over it, iron is to be preferred (protected so as not to get overheated), as the fire-brick alone, so placed, is apt to crack in time and to allow an escape of smoke. It has been said that hot iron (we refer to iron below a red heat) injures air for respiration; but as far as we have been able to discover, air warmed over hot iron is as healthful as if warmed over brick surfaces, supposing, of course, that those surfaces are of equal temperature.

VII.
Smoke
consuming
Grates.

There are some good smoke-consuming grates made, such as Dr. Arnott's, and also Mr. William Young's, but these do not appear to come into general use, as they have objections

which in the opinion of some persons overbalance their advantages. In referring to modern grates these must not be overlooked; for while they are ingenious, they are also practically useful.

Gas is occasionally used for warming, but experience shows that it is generally expensive and unsatisfactory. Under exceptional circumstances it may be used with advantage.

VIII.
Gas, Mineral
Oil,
and Charcoal.

Small stoves for burning mineral oil are made, but these, (like the stoves made for burning prepared charcoal) if used without flues, give off objectionable and sometimes dangerous gases, as well as aqueous vapour. Stoves without flues are not to be recommended.

Other methods of warming, such as hot-water, hot-air, and steam, are to be strongly recommended, both for efficiency and for economy in fuel; especially for warming several rooms from one fire, or for Churches, Hospitals, Banks, Manufactories, Prisons, and other large Buildings. Advice in such cases cannot well be given without our seeing either the buildings themselves or at least the plans of them. The following remarks are confined to fireplaces for warming one or two rooms from one fire.

IX.
Hot Water,
Hot Air,
and Steam.

It is worth notice that a special fire is not always necessary for Hot Water pipes, as the boiler may often be placed behind an existing fire. In the same way, Hot Air may be supplied to a second room from a fireplace already in use.

Headache and other ill effects are occasionally produced by stoves which over-heat the air, arising from the abstraction of moisture from the lungs and skin, as well as from a change which takes place in the electrical condition of the air; but this can be rectified by a vessel of water placed on or near the heated surface. This is strongly advised; but in the following stoves especial regard is had to prevent this over-heating of the air, by lining the fuel chamber with a second thickness of iron or with fire-brick, as well as by other methods.

X.
Healthful-
ness.

The popular cry for ventilation can be very fairly met in connection with most of the following fireplaces, and with as much success as can attend any system of "natural" ventilation.

XI.
Ventilation.

In one of the fireplaces lately introduced, external air is

warmed in the heating chamber behind the fireplace, and then enters the room *near the ceiling* instead of lower down. This plan doubtless has some advantages, although it is somewhat difficult of application to existing chimneys; but we decidedly prefer bringing the warmed fresh air to the *lower part of room*, and drawing off the foul air from near the ceiling.

For large, and especially public, buildings an arrangement for "mechanical" ventilation is to be preferred (particularly where motive power is at hand), as being far more uniform and reliable.

XII.
Smoking
Chimneys.

Most of the following fireplaces tend to cure, or at least to improve, chimneys inclined to smoke, especially those that introduce external air. If the fireplace itself does not render the chimney satisfactory, means can generally be employed that will cause the draught to be good at all times; this applies to flues that descend through the floor, as well as to those that lead upwards from the fireplace. Troublesome chimneys have been successfully treated by A. B. & S. in various parts of Great Britain and abroad.

XIII.
Power of
Stoves,
and Fuel
Consumption.

The power of the stoves herein named, as well as the consumption of fuel, are only approximate, as it is impossible to give precise information; so much depending on the dryness and general character of the building, the amount of ventilation, the quality and kind of fuel used, the attention the fire receives, &c.

It is also essential that the stoves be properly fixed, according to their respective requirements.

In the following estimates coal is taken at 30s. a ton, and a day means about twelve hours.

In ordering a stove it is well to have it of full warming power, too large rather than too small; and this applies with great force to cold and damp rooms. The fire burns better and with less attention; hence a proportionate saving in fuel.

XIV.
Damp Rooms.

If the room is damp, a stove *far more powerful* is needed than if dry, as the process of drying absorbs nearly all the heat.

In the same way a new building will not be properly warmed during the first winter, while drying, although the method employed will in the future be thoroughly efficient.

XV.
Saving in
Fuel.

Generally speaking, if the cost of fuel for warming a house is £20 a year (with old-fashioned iron grates), about £7

of that sum may be saved by using grates class A. Use fireplaces class B, C, or D, and about £13 out of the £20 will be saved.

If external air be brought directly to the fireplace, the cost of fuel will be somewhat greater than estimated.

Sliding plates under the grating on which the fuel rests, or ash-drawers, are strongly recommended, so that the draught through the fuel can be regulated at pleasure.

Loose plates resting upon the grating have been considerably used, but the objection to these is, that they cannot be removed while the fire is burning.

"Moirs main" coal is the best for burning for a long time without attention, as in the sick-room, &c.

Fireplaces for special purposes and for distant parts of the world, as well as for burning peculiar local fuels, can be made to suit their respective requirements, upon the necessities of the case being stated.

The prices of the following range from 5s. to £12 10s. for the grate or stove, exclusive of fixing.

Many of the stoves and grates are kept in stock of larger sizes and of higher finish; designs for the latter may be borrowed on application. Some of the fireplaces are also made of smaller sizes than stated.

In ordering stoves for the country it is well to state the object or name of the room, its size and aspect, whether its walls are external, the amount of window surface and ventilation, &c.

If this pamphlet does not give the desired information, we shall be glad to inspect the rooms or buildings proposed to be warmed or ventilated, and to deal with each case according to its own requirements.

We also undertake the fixing of any of the stoves, as the success depends largely upon this being properly done. Printed instructions for fixing and using some of them will be sent with them.

We shall be happy—although not executing the works—to give our advice, upon stated terms, for warming and ventilating, and upon other domestic sanitary matters.

XVI.
Slow Combustion Grates.

XVII.
Stoves for special purposes, and for Abroad.

XVIII.
Prices.

XIX.
Country Correspondents.

XX.
Personal inspection and advice, fixing of Stoves, &c.

ALEX^R. BOYD & SON,
WARMING ENGINEERS.

105, NEW BOND STREET,
LONDON. W.

BRICK-BODY GRATE No. 1.

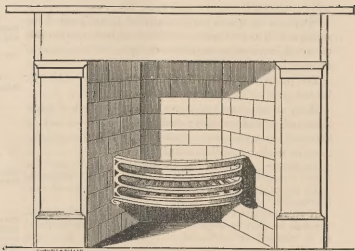


PLATE I.

CLASS A.

In this class the grates are set solidly into or formed in the fireplace in the usual way, and warm the air by radiation from the front of the fire, and somewhat also from heat reflected from the back and sides of the fireplace.

Brick-body Grate. No. 1.

This is the cheapest form of the ordinary English open fireplace, while it is, perhaps, as effective as any in throwing out heat with a moderate expenditure of fuel, always excepting such as have back and sides of polished metal *kept brightened*. It consists of a set of front bars, and the grating on which the fuel rests built into the side brickwork, as shown in Plate 1. This side brickwork should be at an angle of 135° with the back (a right angle and a half). The brickwork round the fire should be of fire-brick or fire-lumps.

This is suited to Cottages, Bedrooms, or any room where a fire is needed without an expensive fireplace.

This grate is made in various sizes, to suit rooms from 8 ft. square to 25 ft. square, and of usual height. Larger rooms to be thus warmed should have two fireplaces.

Coal, coke, wood, or peat, will burn in this grate: perhaps coal and coke mixed is the most economical fuel. If the grate is very large, coke alone may be used with advantage. To burn wood or peat a larger fuel-chamber is needed, as a rule, than for coal or coke.

For an average size grate about 4d. per day.

For fireplaces from 1 ft. 6 in. to 3 ft. 6 in. wide.

These bars and bottoms (no bricks), 16 in., 5s.; 18 in., 6s.; 20 in., 7s. per pair. Other sizes also are made.

Register door and frame, to close chimney when necessary, 8s. to 14s. each extra, according to size.

A set of decorated tiles, and two mouldings to hold them, to form the front, as shown in Plate 4. Price 12s. per set.

Loose solid wedge-shaped bricks, to place behind the fuel, from 1s. 6d. each. These are suited to any open fireplace, and are strongly recommended, especially for mild weather; they reduce the size of the fire, and keep the fuel forward to the room.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

VIII.
Register Door.

IX.
Tiles.

X.
Loose Brick
Backs.

FIRELUMP GRATE No. 2.

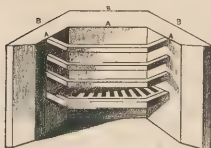


PLATE 2.

FIRELUMP GRATE WITH BEVELED FRONT.

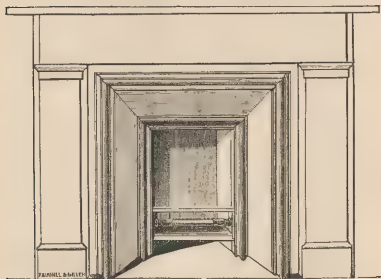


PLATE 3.

CLASS A.

Firelump Grate. No. 2.

This grate is like the last, but in one piece, for convenience of fixing, &c. The action of this grate is fully as good as in the last. To produce the maximum heating power, brickwork or fire-tiles should be carried up flush with the *inside* edge of hobs and back (i.e. at line A A A, Plate 2); but if the hobs are wanted for use, carry up the brickwork with its face in line with *back* of hobs and back at B B B.

This is suited to Cottages, Bedrooms, or to any room where an economical fireplace and fire are required.

Of various sizes, for rooms from 8 ft. to 25 ft. square.

Coal, coke, wood, or peat.

For an average size grate, about 4d. per day.

For fireplaces from 1 ft. 6 in. to 3 ft. wide.

18 in. (extreme width), 14s.; 21 in., 15s. 6d.; 24 in., 18s.; 26 in., 19s. 6d.; 28 in., 23s.; 30 in., 24s.; 36 in., 40s. A second (inferior) quality also is made. Trivets, to hook on to the bars, extra.

Register door and frame to close chimney when necessary, 8s. to 14s. each extra, according to size.

Decorated tiles to suit the room (as in Plate 4) can be used to form the fronts of these grates. About 12s. per set, with two mouldings.

Grates 1 and 2 can be fitted with beveled fronts, as in Plate 3; and the bevels can be in iron, in steel, or in decorated tiles, and with or without the mouldings shown in the engraving.

Price of this, as Plate 3, with black polished iron front, fire-brick body, register, &c., £4 10s.

If with counterpoise blower, working on brass wheels and chains, 36s. extra.

A similar grate with decorated porcelain front, framed in polished black mouldings, fire-brick body, register, &c., £8 5s.

If with counterpoise blower, working on brass wheels and chains, 50s. extra.

I
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

VIII.
Register Door.

IX
Tiles.

X
Varieties.

FIRELUMP GRATE. No. 3.

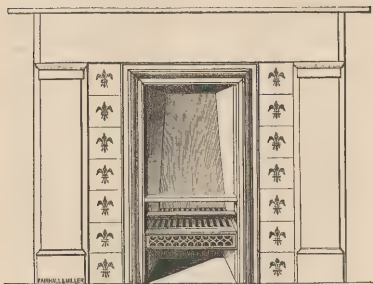


PLATE 4.

CLASS A.

Firelump Grate with Framed Iron Front. No. 3.

This grate (Plate 4) is like the preceding (Plate 2), but more complete; and being more contracted, is less likely to smoke.

Fitted with ash-drawer or a sliding plate under the grating, this can be regulated as to draught, and so made into a slow combustion grate. Arranged thus, this is (as to structure) the best open fireplace that can be desired. If fitted with sliding blower to draw down at pleasure, an upward draught is obtained in a chimney much inclined to smoke.

This is suited to any room where a good but simple grate is needed, and will tend to cure a smoking chimney.

For rooms from 12 ft. to 20 ft. square.

Coal, coke, wood, or peat.

For an average size grate, about 4d. per day.

1 ft. 6 in. wide and upwards.

Front, bottom grating, lumps, &c., 21s. set.

A second quality is made at 14s. 6d. a set.

If with draw-down blower, best, 85s.

" " second quality, 40s.

Draught-plate 6s. extra. Ash-drawer, with regulator, 15s. extra.

Register door and frame to close chimney when necessary, 8s. to 14s. each extra according to size.

Decorated tiles (as in Plate 4) for front, and with two iron mouldings, 12s. per set.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

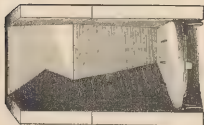
VII.
Price.

VIII.
Register Door.

IX.
Tiles.

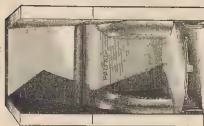
FIRE-BRICK GRATE BODIES AND LININGS. No. 4.

PLATE 5.



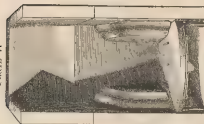
FULL SIZE OF FIRE.

PLATE 6.



SMALLEST FIRE WITH
3 LINING PIECES

PLATE 7.



MEDIUM FIRE WITH
2 SIDE CHEEKS

PLATE 8.



BACK LINING FOR
SMALLEST SIZES



SET OF LININGS
IN 3 PIECES.
PLATE 9.



PAIR OF SIDE CHEEKS
PLATE 10. PLATE 11.



STAND FOR FIRE-
BRICK BOTTOM
PLATE 12.



FIRE BRICK BOTTOM.
PLATE 13.



SMALL BACK LINING.
PLATE 14.

CLASS A.

Fire-brick Bodies (for Grates). No. 4.

These bodies (Plates 5 to 8) are formed of solid fire-brick, the back slanting forward over the fire (see Section Plate 15), so that the heat is thrown downwards on to the floor. It is also said that smoke is partially consumed in passing over this hot projection. These bodies are made with fire-brick bottoms (Plate 12), through which the draught can be regulated at pleasure. Loose linings (Plates 9, 10, 11, and 14) are fitted to these, to insert during mild weather, thus reducing the fire. These bodies may be applied to almost any front, whether of porcelain, of steel, or of iron; and if set solidly into the fireplace, they throw out great heat from little fuel.

These bodies are suited for grates of any room where an open fire is required.

For rooms from 12 ft. to 20 ft. square, according to size of body.

VERTICAL CROSS SECTION,
THROUGH GRATE. No. 4.

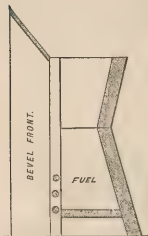


PLATE 15.

Coal, coke, or wood. The two latter do not burn well in small grates.

About 2d. to 4d. a day, according to the size of body.

Width of body *between the cheeks* in front, as follows: (these average 2 ft. 6 in. high.)

8 in.	10 in.	12 in.
21s.	22s.	23s.
14 in.	16 in.	18 in.
24s.	27s.	30s.

These prices include the body in two parts (upper and lower) and fire-brick bottoms, with air regulator.

The loose linings for use in mild weather are extra, and average 7s. 6d. per set of three.

8s. to 14s. each, according to size.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

VIII.
Register Door.

WARM AIR GRATE No. 5.

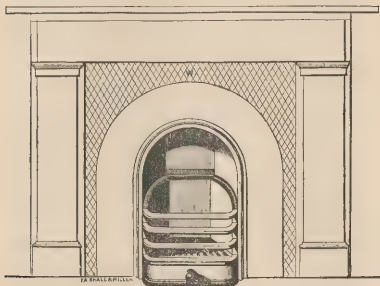


PLATE 16.

PLAN OF DITTO.

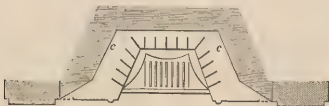


PLATE 17.

CLASS B.

In this class a space is left behind the grate, where air (either from the room or from a pure external source) becomes warmed by contact with the back and sides of the fuel-chamber, and then passes into the room. Heat is thus utilized which is generally lost in the wall behind the fireplace. Such grates, therefore, warm the room by conduction, as well as by radiation and reflection.

Warm-air Grate. No. 5.

In this grate (Plate 16) a space is left round the back and sides, which space forms a warming-chamber. The air of the room (or better still, air from an external source) is constantly passing through this chamber, and becoming warmed. Heat is thus utilized which is generally lost in the brickwork behind the fireplace. *c c* is the heating-chamber, Plate 17; *w* is the wirework, or other perforated front, through which the warmed air comes into the room. The iron body is protected by fire-tiles, so that the case cannot get overheated. The amount of fire is regulated by a draught-plate. The back and sides are "gilled," so that the heating surface is doubled. The wirework can be removed, so that the heating chamber may be dusted, or washed with lime occasionally. The supply of air to warming-chamber is regulated by a damper in the hearth or in the air conduit.

I.
Description.

This is suited to Bedrooms, Nurseries, Sitting and School-rooms, &c.

II.
Applicability.

For rooms 15 ft. to 25 ft. square.

III.
Power.

Coal or coke, or a mixture of the two.

IV.
Fuel advised.

About 3d. a day.

V.
Cost of Fuel.

For fireplaces from 2 ft. 6 in. to 3 ft. 6 in. wide.

VI.
Size.

£5 16s. If with iron front and perforated apertures to close at pleasure, same price.

VII.
Price.

A commoner grate on the same general construction, 70s.

This principle can be applied to highly-ornamental grates as well as to those of simple design.

VIII.
Varieties.

PROJECTING WARM-AIR GRATE No. 6.



PLATE 18.

CLASS B.

Warm-air Grate. No. 6.

Warm-air grate, projecting partially into the room.

The chief difference between this (Plate 18) and the previous grate is that it is so constructed as to project somewhat into the room, as well as partially into the chimney. Warmed-air comes through the perforated front into the room, and it is advisable to bring it from a pure external source if practicable.

Grates on the same general construction as this have been made by us for twenty-five years, and have been much approved.

This is suited to Bedrooms, Sitting Rooms, Corridors, Schoolrooms, &c.

For rooms from 14 ft. to 22 ft. square.

Coal or a mixture of coal and coke.

About 4d. a-day.

For fireplaces 2 ft. 10 in. to 3 ft. 4 in. wide.

£6 3s.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

PROJECTING WARM-AIR GRATE No. 7.



PLATE 19.

PLAN OF DITTO.



PLATE 20.

CLASS B.

Warm-air Grate. No. 7.

This grate (Plate 19) is much like the last described (Grate 6), except that it projects outwards into the room, and not into the fireplace. (See Plate 20) Warm air comes into the room after contact with the back and sides of the grate, so that very little is lost. The heating-chamber (Plate 20) is supplied with external air or the air of the room; this air passes into the room through openings in the front of the grate.

I
Description.

This is suited to Bedrooms, or to better rooms of almost any description.

II
Applicability.

For rooms 14 ft. to 22 ft. square.

III.
Power.

Coal, or coal and coke.

IV.
Fuel advised.

About 4d. a-day.

V.
Cost of Fuel.

For fireplaces from 2 ft. 9 in. to 3 ft. 6 in. square.

VI.
Size.

With firelump back to fire, let into an iron case, gills, &c.,
£6 15s.

VII.
Price.

A small common grate on the same general construction,
at £3 15s.

This grate is made with polished bright iron front, bronzed front, and tiled front. Prices accordingly.

Varieties.

STOVE GRATE No. 8.



PLATE 21.

CLASS C.

IN this class the Stove Grates are single bodied, and stand forward into the room; thus the air is warmed by radiation and conduction from all parts of the stove, and from the flue-pipe also where practicable.

Stove Grate. No. 8.

In this fireplace nearly all the heat is utilized. The iron is protected to prevent its becoming overheated. This stove (Plate 21) is of the simplest construction, and when in use no heat passes away but what is necessary to sustain an upward current in the chimney. The bars and bottom of fire are movable, so that coal, wood, or peat, can be used. The stove is mounted on a raised iron hearth so as to be safe on a wood floor.

This is suited to Servants' Rooms, Workshops, or any room where appearance has not to be studied.

For rooms 14 ft. to 20 ft. square.

Coal, coke, wood, or peat.

About 3d. a day.

1 ft. 10 in. wide, 1 ft. 9 in. back to front, and 2 ft. 8 in. high.

£1 16s. 0d.

This is also made in larger sizes.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

STOVE GRATE No. 9.



PLATE 22.

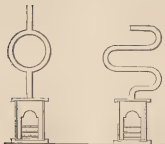


PLATE 23.

PLATE 24.

CLASS C.

Stove Grate. No. 9.

The description of the previous fireplace (No. 8) will suffice for this; but the design differs a little. This stove (Plate 22) is fitted with a draught door to hasten the fire at lighting, and when it is needed to be made hotter during the day. The iron is protected to prevent overheating the air, and the stove is mounted on a raised iron hearth.

This is suited to Servants' Rooms, Shops, Yachts, Drying Rooms, &c.

For rooms about 16 ft. square.

Coke or anthracite coal preferable; ordinary coal will do.

About 2d. a day.

1 ft. 5 in. wide, by 1 ft. 6 in. back to front (at hearth), and 2 ft. 9 in. high.

£3 10s.

If gilled at back and sides, to increase the heating surface, £4.

This stove is also made larger and smaller. Stoves of this kind may be made to do a maximum amount of work by making the flue long or tortuous, as is common on the Continent. (See Plates 23 and 24.)

In North America such flues run through the whole of the house; the stove is generally closed (instead of showing the fire), and during the hot season these pipes are removed and stowed away. Coke or wood should be used if possible with such flues, as several doors for the removal of soot from coal are objectionable. For drying-rooms, or where appearance has not to be studied, this plan is desirable.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

STOVE. No. 10.

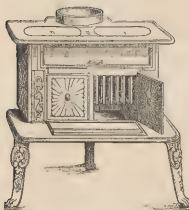


PLATE 25.

CLASS C.

Stove. No. 10.

This is a useful little stove, intended for cottages, or where warming with economy and a little cooking are required. Plate 25 shows the form of the stove. Nearly all the heat is utilized. Cooking can be done on the top and in front of the fire.

This is suited to Cottages, Workshops, Bedrooms, or Yachts, &c.

For rooms about 15 ft. square.

Coal, coke, or cinders.

About 2d. a day.

1 ft. 6 in. wide, and 1 ft. 3 in. back to front (at pan); height, 1 ft. 5 in.

£1 6s. 0d.

One other size (larger) than this is made.

I.
Description.

II
Applicability.

III.
Power.

IV
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

GILLED STOVE No. 11.

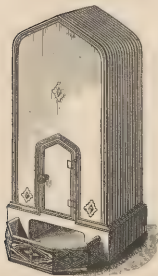


PLATE 26.

CLASS C.

Gilled Stove. No. 11.

I.
Description.

The heating surface in this stove is vastly increased by forming its body of plates edgeway to the fire (see Plate 26); the fire thus acts on the edges of the plates, while all their other surfaces give off heat: the result is that a large surface is heated to a moderate degree, instead of a small surface being highly heated. The fire in this stove is not intended to be seen. The maximum effect of the stove is produced with its door shut and the admission of air regulated. This is an excellent form of stove where much work has to be done, and where appearance has not to be studied.

This is suited to Staircases and Passages, Drying Rooms, Workshops, Public Schoolrooms, &c.

II.
Applicability.

For rooms about 38 ft. square.

III.
Power.

Coke, cinders, or anthracite coal.

IV.
Fuel advised.

About 3d. a day.

V.
Cost of Fuel.

1 ft. 6 in. wide, 1 ft. 7 in. back to front, and 3 ft. high.

VI.
Size.

£7 10s. 0d.

VII.
Price.

Stoves on this construction are made larger and smaller; viz., for rooms from 15 ft. square to 50 ft. square.

Variation.

CIRCULAR GILLED STOVE. No. 12.



PLATE 27.

CLASS C.

Circular Gilled Stove. No. 12.

In principle this stove resembles No 11, but that this is of circular form (see Plate 27), and the fire can be used open in front or closed; another advantage is that the top can be removed for boiling or stewing, or for heating irons; the interior is lined with fire-bricks. This stove is fitted with a pan for water for moistening the air, in proportion to the amount of heat given off.

This is suited to Workshops, Schoolrooms, Bedrooms, Nurseries, Passages, &c.

For rooms about 20 ft. square.

Coke, coal, or cinders.

About 2d. a-day.

1 ft. 3 in. diameter in body, and 2 ft. 7 in. high.

£4 10s.

Large circular stoves on this construction, but with fixed top and closed fire, are largely used for warming Churches and other buildings. They are powerful, and very economical in fuel. One of the large stoves will warm a room 80 feet square.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

SLOW-BURNING STOVE. No. 13.

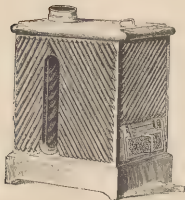


PLATE 28.

CLASS C.

Slow-burning Stove. No. 13.

This is a slow burning stove; that is to say, the draught, and hence the fire, can be easily controlled. The fuel-chamber is lined with fire-brick, while the outer surface of the stove is covered with a series of ribs, or gills, and it has an extra amount of flue; all of which increase its heating power. (See Plate 28.) In this stove the fire is enclosed; but whenever this is the case, a smaller consumption of fuel results.

This is suited to Staircases, Conservatories, Passages, Drying Rooms, Workshops, Schoolrooms, &c.

For rooms about 30 feet square.

Coke, cinders, or anthracite coal preferable; wood or peat will also do.

About 4d. a-day.

1 ft. 4 in. wide by 1 ft. 10 in. back to front (of base), and 2 ft. 4 in. high.

£5 10s.

Larger and smaller stoves on this construction are made.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Variation.

PORCELAIN PEDESTAL STOVE.
No. 14.

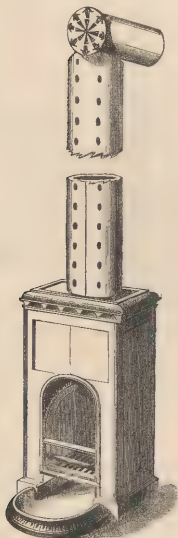


PLATE 29.

CLASS D.

In this class the stove (which stands forward into the room) has a double case, with a space between the inner and outer cases, which space forms a heating chamber; through this, air (from the room, or fresh external air) is constantly rising and passing into the room. Thus these warm by radiation and conduction. *As no chimney-piece is necessary with these stoves, the first cost is reduced, as well as the cost in fuel.*

PLAN OF No. 14.



PLATE 30.

Porcelain Pedestal Stove. No. 14.

This stove (Plate 29) is lined with fire-brick, and has the heating chamber *cc* (Plate 30) between inner and outer cases. The outer case is covered with white porcelain framed in iron mouldings, and has a draught plate, ash-pan, blower, and stopper for flue.

This stove with its frame galvanized forms a very good medium for warming Bedrooms and Nurseries, as damp linen may be thrown over it to dry without fear of rust.

The flue can be carried direct from the top upwards through one or more stories if wished; and if covered with perforated earthenware pipe, forms a way by which nearly all the heat given off by the fuel is utilized.

For almost any room or position where a healthful and economical fire is needed; but its appearance is not equal to a good Drawing or Dining Room.

For a room about 16 ft. square.

Coke, cinders, or coal.

About 3d. a day.

1 ft. 7 in. wide by 11½ in. back to front at base, and 2 ft. 8 in. high, extreme size.

£6 (without tall flue).

If galvanized frame (washable), 30s. extra.

If gilled on body, 20s. extra.

With simple decorated tiles (in place of white, the cost is about 16s. extra.

With flue to ceiling of room, encased in earthenware, and with ventilator at top of same—by this means fresh warmed air may be supplied to the lower part of the room, and the foul air drawn from near the ceiling. (See Plate 29.)—£3 5s. extra.

Raised iron hearth, 15s.

Tiled hearth, 25s.

Tiled hearth in raised iron frame, 32s.

Japanned standing guard, 1 ft. 3 in. high, with brass top, 12s.

Poker and shovel, 8s.

Larger stove of same make (as the £6), 1 ft. 10½ in. × 1 ft. 2 in. at base, and 3 ft. high, £7 10s.

If gilled on body, 25s. extra.

A. B. & Son's ground iron socket doors, with gun-metal screws (if required), 12 in. × 9 in., 25s.; 18 in. × 9 in., 33s.

A. B. & Son's ground iron valve registers (if required), 7 in., 18s.; 8 in., 19s. 6d.; 9 in., 21s.; 11 in., 25s.

I
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

REGISTERED PORCELAIN PEDESTAL STOVE. No. 15.

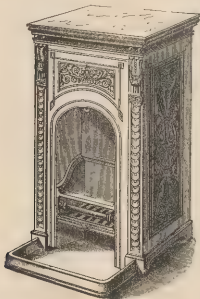


PLATE 31.

PLAN OF DITTO.

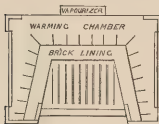


PLATE 32.

CLASS D.

Registered Porcelain Pedestal Stove.
No. 15.

This stove is very similar to stove No. 14, but of better proportion, design, and finish, and is surmounted by a marble slab; the panels of porcelain have been specially designed, and are decorated in various colours. The fuel-chamber is lined with fire-brick to prevent overheating the air, and the body is gilled so as to double the heating surface; it also has a draught-plate, ash-pan, blower, and stopper for flue. Plates Nos. 31 and 32 explain more fully the construction. Fresh (external) warmed air can be supplied by this stove, as also filtered, disinfected, or perfumed air. *A. B. & Son will be happy to submit testimonials which they have received of this and other fireplaces.*

This is suited to Drawing Rooms, Dining Rooms, Libraries, Bedrooms, Staircases, Conservatories, Show Rooms, Yachts, Hotels, Clubs, &c.

For rooms about 20 ft. square.

Coke, cinders, or coal.

About 3d. a day.

1 ft. 9 in. wide, 1 ft. 1 in. back to front, and 2 ft. 10 in. high.

£12 10s. (including draught-plate and stopper).

In bronze, 30s. extra.

In bronze and ormolu, 60s. extra.


Brass wire standing guards, 1 ft. 3 in. high, 30s.

In japanned wire of any colour, with brass top, 15s.

Polished poker and shovel, 12s. pair.

Do. with brass knobs, 22s. 6d. pair.

Hearths, &c., which are occasionally needed, see page 35

 Larger and smaller stoves on the same general construction are kept in stock or finished on purpose; in all, about forty varieties, and up to £120 each.

Marble stoves on the same general construction and of various colours from £14 and upwards.

Hexagonal Porcelain Stove, £9 15s.

Do. with brass frames, £15.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

STOVE GRATE. No. 16.

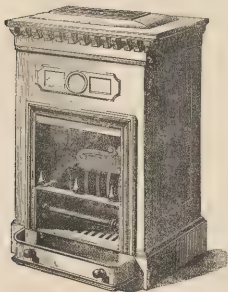


PLATE 33.

CLASS D.

Fire-brick-bodied Stove Grate. No. 16.

The peculiarity of this stove (Plate 33) is that the body or fuel-chamber is formed of strong fire-brick, so that no air to be used in the room comes in contact with heated iron. (See introduction, clause VI.) This fire-brick is protected in the fire with iron guards, to prevent liability to crack. In other respects, the general description of the two preceding stoves (Nos. 14 and 15) applies to this one, but that its outer case is usually of iron.

For Staircases, Passages, Schoolrooms, Libraries, Workshops, &c.

For a room about 25 ft. square.

Coke, coal, or cinders.

About 4d. per day.

1 ft. 6½ in. square (at base), and 2 ft. 9½ in. high.

£7 7s.

Larger and smaller stoves on this construction are made.

I.
Description.

II.
Applicability.

III.
Power.

IV.
Fuel advised.

V.
Cost of Fuel.

VI.
Size.

VII.
Price.

Varieties.

ALEX^R BOYD & SON

(LATE SUMMERS)

HAVE been engaged during nearly a century in warming buildings of every kind, at home and abroad, and are prepared to apply the best known means in every case that is referred to them.

A. B. & SON purpose introducing, from time to time, *every real improvement* in warming rooms and buildings. They have now in process of manufacture some new fireplaces, although these are not yet ready for sale.

It is well to bear in mind that the majority of inventions for warming rooms fail in one way or the other, and have to be discarded after a few months' use; and this arises from the fact that the projectors are not conversant with *all the various points* that require to be kept in view to attain complete success.

Fireplaces are kept in stock of Old English, Louis Seize, Japanese, and other designs, as well as of French and German construction.

A. B. & SON manufacture all kinds of Kitchen, Bath-room, and Laundry fireplaces and apparatus for Clubs, Hotels, and Private Buildings, as well as fireplaces for all other general purposes, but these do not belong to the foregoing list.

A. B. & SON are the inventors and patentees of the Mercurial Valve, the only known safeguard for boilers working under hydrostatic pressure, where the purity of the water has to be retained.

105, New Bond Street,
London. W.

TERMS.

Five per cent. allowed from accounts paid in full within **Cash discount.**
fourteen days of completion of order, otherwise net.

If the order is necessarily long in hand, the discount will **Orders neces-**
be allowed from payments during its progress, in the same **sarily long in**
ratio. **progress.**

Unknown correspondents must please remit cash with **Reference.**
order, or give a good London reference.

Goods for abroad to be paid for before shipment. **Export**
Orders.

Cheques to be crossed "Sir S. Scott, Bart., & Co.," and **Cheques and**
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The prices are liable to vary with the markets. **Prices.**

A. B. & Son deliver goods free in London and in rotation, **Delivery.**
but preference is given to urgent orders.

(Orders for fireplaces frequently come all at once with
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One-half allowed for packages *when received* back free and **Packages.**
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